

### **REMARKS**

Applicants have carefully reviewed and considered the Examiner's Action mailed June 12, 2003. Reconsideration is respectfully requested in view of the comments set forth below.

By this Amendment, new claim 21 is added. Accordingly, claims 1-21 are pending in the instant application.

Claim 1-8 and 12-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reddersen, et al (hereinafter referred to as "Redderson") in view of Goltz, et al (hereinafter referred to as "Goltz") as explained in the paragraphs spanning pages 2-6 of the Action. Claim 9-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Redderson in view of Goltz and further in view of Loya for the reasons set forth in the paragraphs spanning pages 6 and 7 of the Action. These rejections are respectfully traversed.

As explained in paragraphs 6 and 7 of the instant application, it is a known disadvantage of deflection units that they comprise a plurality of electrical and mechanical components. In addition to being time-consuming to assemble and resulting in undesirably high manufacturing costs, the tolerances of the individually produced components lead to problems with the accuracy of the deflection units produced in this manner. Accordingly, it is an object of the invention to develop a deflection unit for an optoelectronic device, which has the smallest possible structural size at the lowest possible production costs and with a smaller number of production parts than known optoelectronic devices. Applicants' claimed optoelectronic device achieves this result with a transmitter that emits rays, a receiver that receives light rays reflected by labels and generates electrical receiving signals corresponding to the received light rays, an evaluation device for evaluating the electrical receiving signals at the receiver, and a deflection unit including a polygonal mirror wheel and a motor that drives the polygonal mirror wheel where the

transmitted light rays are guided over the polygonal mirror wheel to scan the contrast patterns of the labels, the received light rays are guided over the polygonal mirror wheel, and the motor of the deflection unit has a shaft with an injected-molded magnet that is molded on the shaft and operates jointly with a coil.

As the Examiner concedes, Reddersen does not teach that the magnet is injected-molded. However, it is the Examiner's position that "it would have been obvious to one of ordinary skill in the art at the time of the invention to use the injected-molded magnet of Goltz in the optoelectronic device of Reddersen in order to prevent axial displacement of the magnet with respect to the shaft" (Goltz, column 1, line 43-column 2, line 4). On the contrary, Reddersen is directed to an "O"-shaped magnet", while Goltz describes the optimization of an injected-molded magnet with respect its production method. That is, according to the teachings of Goltz and the alleged motivation provided by the Office Action, the "O"-shaped magnet of Reddersen should be injected-molded about a hub with projections 5 in order to fix the hub to the magnet. It is respectfully submitted that such a modification would destroy the scanner assembly taught by Reddersen and would not arrive at the claimed invention as suggested by the Office Action.

According to column 9, lines 34-40 of Reddersen, a special compact motor is employed to rotate the multi-faceted polygon. This special compact motor includes a magnet yoke (54) that is mounted inside the polygon (52), and an "O"-shaped magnet (55) affixed to the magnet yoke (54) to form a segmented magnet that is mechanically coupled to a shaft (57). Reddersen further teaches that "it should be appreciated that a novel and beneficial aspect of the subject matter is the integration of the magnet yoke (54) and magnet (55) with a polygon facet wheel (52) as this results in a more shallow...scan module compared to prior art scanners in which the scanning mirror was not integrated with the motor, but instead mounted on the shaft of a self-

contained motor. See column 9, lines 57-63 of Reddersen. Thus, Reddersen teaches that the magnet should **NOT** be mounted on a shaft of a self-contained motor. Accordingly, nowhere does Reddersen disclose, teach or even suggest using a different magnet structure; nor does Goltz teach or suggest or using its injected-molded magnet in a barcode reader as disclosed in Reddersen. Thus, it is respectfully submitted that one of ordinary skill in the art would **NOT** have considered modifying the mechanical integration of magnet yoke and magnet with polygon facet wheel (52) as taught to be beneficial by Reddersen.

This is especially true in that Goltz is directed to a rotor for an electric motor and does not disclose, teach or even suggest that the disclosed rotor can be used in optical sensors, such as scanners. In the absence of such a teaching, it is unclear how one of ordinary skill in the art would have combined the hub (3) and injection-molded magnet (2) of Goltz with the magnet (55) affixed to the magnet yoke (54) to form a segmented magnet as taught by Reddersen, let alone arrive at the claimed invention. Goltz does not mention that its injection-molded magnet can be used to replace a segmented magnet as taught by Reddersen. Thus, it is believed that one of ordinary skill in the art would not use the injection-molded magnet of Goltz in the optoelectronic device of Reddersen as such a substitution would destroy the Reddersen “segmented magnet which is mechanically coupled to a proximate end of motor shaft (7)” (column 9, lines 39-40 of Reddersen).

Accordingly, it is believed that claims 1-8 and 12-20 are patentable over any combination of Reddersen in view of Goltz.

The additional secondary reference to Loya does not overcome the shortcomings of Reddersen and Goltz, either alone or in combination, as Loya does not teach or suggest an injection-molded magnet being molded on the shaft. Instead, Loya discloses a mounting and

balancing system for detachably mounting and balancing a polygon mirror body onto a rotating motor hub. Thus, Loya cannot provide the missing motivation as argued above. Accordingly, it is respectfully submitted that claims 9-11 which dependent from independent claim 1 are also patentable at least for these reasons over the applied references.

New 21 is directed to the subject matter disclosed in paragraph 11 of the instant application. According to dependent claim 21, the outside contour of the injection-molded magnet is adapted to the inside contour of the polygonal mirror wheel so that the polygonal mirror wheel is fitted onto the magnet and can be attached to this magnet. As explained in paragraph 10 of the instant application, one essential advantage of the claimed device is that the shaft with molded-magnet forms an extremely compact structural unit that can be produced inexpensively. That is, no additional adapters or the like are required to connect the drive shaft to the magnet. As a result, the motor for driving the polygonal mirror wheel can be produced efficiently with a small number of individual parts and with extremely small dimensions. Thus, an advantage achieved with this structure is that the magnet not only can be fitted onto the shaft, but also, the outside contour of the magnet can accommodate the polygonal mirror wheel. Consequently, the mechanical coupling of the magnet yoke of Reddersen and the mounting and balancing system taught by Loya are not needed. Goltz merely discloses a cylindrical magnet (2) and does not mention, let alone teach or suggest designing the outside contour of the magnet so that the magnet can be connected to external units. Accordingly, one of ordinary skill in the art would not have modified the injection-molded magnet to have an outside contour that is adapted to an inside contour of the polygonal wheel. Accordingly, new claim 21 is patentable over any combination of the art of record.

In view of the foregoing comments, it is respectfully submitted that the instant application is in condition for allowance and Applicants respectfully request the of Notice of Allowability indicating the same.

New claim 21 has been added for a total of twenty-one claims and accordingly, a check in the amount of \$9.00 is attached. If no remittance is attached , or should any additional fees be needed, please charge our Deposit Account Number 22-0261 and advise us accordingly.

Should the Examiner believe that a conference would advance the prosecution of this application, the Examiner is encouraged to telephone the undersigned counsel to arrange such a conference.

Respectfully submitted,

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